

Incidence and Prevalence of Neuroendocrine Tumors in the United States 1973-2012

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Background: Neuroendocrine tumors (NETs) have often been considered a group of rare tumors. However, previous literature found that the incidence of NETs has been on the rise in the United States, increasing close to five-fold from 1973 to 2004. In this study, we further examined the recent changes in the incidence and prevalence of NETs as there have been substantial recent advances in epidemiology, molecular biology, diagnostics, and therapeutics.

Methods: We used data from the Surveillance, Epidemiology, and End Results (SEER) registries to examine the trend from 1973 to 2012. Associated population data were used for incidence and prevalence analyses.

Results: We identified 64,971 patients diagnosed with NETs from 1973 to 2012. There was a continuing increasing trend in the reported annual age-adjusted incidence of NETs from 2004 (5.44/100,000) to 2012 (6.98/100,000). We found that the increased incidence of NETs is mainly due to increased diagnosis of early stage that now accounts for nearly 2/3 of all incident NETs. Incidence of localized NETs increased from 0.21 per 100,000 in 1973 to 3.15 per 100,000 in 2012; incidence of well-differentiated NETs increased from 0.01 per 100,000 in 1973 to 2.53 per 100,000 in 2012. We estimated the 20-year limited-duration prevalence of NETs to have increased from 6/100,000 in 1993 to 48/100,000 in 2012.

Conclusion: We observed a significant upward trend in reported incidence and prevalence of NETs, most likely due to significant advances in epidemiology, molecular biology, diagnostics, and therapeutics. The increase in incidence and prevalence is most pronounced in localized and well-differentiated NETs.